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ABSTRACT

One hundred and two persons were located 25 years after they had taken a Kuder Preference Record (KPR)-B at an average age of 14 years. Fifty-three percent were engaged in occupations consistent with their highest interest scores, although 32 percent were in occupations consistent with their lowest scores. Those in consistent occupations reported significantly greater job satisfaction, but no difference in self-assessed performance. The present study was undertaken not so much to demonstrate the validity of the KPR which it employes, but to explore the possibility that a set of homogeneous interest scales, administered 25 years previously to junior year high school students, can have any relationship to several occupational criteria. Similar studies were reviewed. Results from the current study were interpreted to mean that counseling for future occupations should not be done from KPR scale scores at age 14, but that interests measured this early do bear a relationship to occupations observed 25 years later. (Author/AG)

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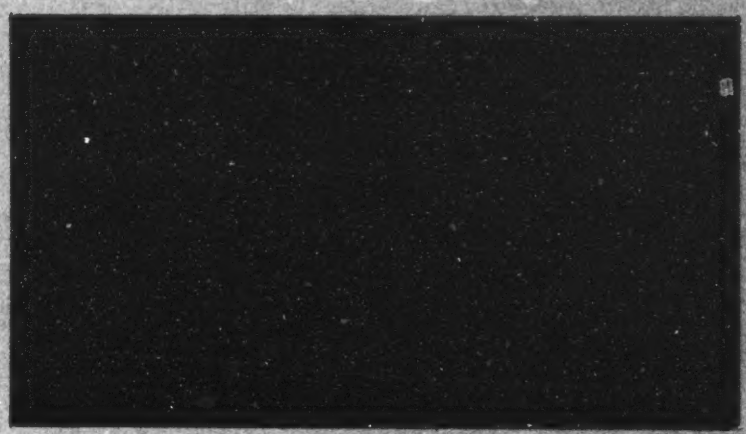

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THE PREDICTIVE VALIDITY OF THE KUDER PREFERENCE RECORD OVER A 25 YEAR SPAN

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The Predictive Validity of the Kuder Preference Record Over a 25 Year Span

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Any test or inventory which offers information from which future plans may be made must have established predictive validity. So, tests of scholastic aptitude given to high schoolers are correlated with college freshman grades, employment selection tests are compared with performance criteria, and interest inventories are matched against eventual occupation and other criteria.

The classic validity study of interest inventories is that of Strong (1955) in which he compared scores earned on his interest blank by men in college and professional schools with their occupations observed 18 years later. Many more studies of the predictive validity of the Strong Vocational Interest Blank (SVIB) are reviewed and summarized by Campbell (1971). Studies of the predictive validity of homogeneous interest scales, such as those of Kuder's instruments, have also been undertaken and are partially summarized by Super and Crites (1962).

Several variables may be presumed to have influence on the predictive validity of any interest inventory. One is the age at which the inventories are given. Studies of test-retest correlations show an increase with age of the Ss, so that Campbell (1971) concludes that from the age of 20 forward the finding is one of considerable stability, but before age 20, some persons' interests may show considerable change.

Another variable would necessarily be the span of time which elapses between inventorying and observation of the criterion. Presumably, if a person were to enter an occupation consistent with his interest patterns

relatively immediately events could occur which might upset that relationship; disabilities, intrusions of new interests or disenchantments, and the like. But, persons who because of circumstances were deterred from entering their most "valid" occupational role, might after a number of years be able to finally actualize their interests in their work. Such might well be the case for some women who marry early. Thus, although the opportunity for intervening events between inventory and follow up can be hypothesized, it is not clear whether they would increase or decrease validity.

Finally, the type of predictor; occupational or homogeneous interest scale, and the type of criterion; occupational membership, length of tenure, satisfaction, or success, appear to influence the degree of relationship found. The evidence seems somewhat inconsistent for axioms to be stated, but some tentative conclusions may be advanced. Clearly, occupational scale scores are reasonably good predictors of later occupational membership (Campbell, 1971; Dolliver, 1969) while homogeneous interest to occupation is less predictable (see review below). Tenure also appears predictable from interest measures according to Porter and Steers (1973). The evidence generally supports the relationship between interests and job satisfaction (Strong, 1955; Kuder, 1964; Super & Crites, 1962) although Berdie (1960a) believes that the relationship is more reliable concurrently than predictively. A few studies have found interest scales related to performance criteria (Nash, 1966; Ghei, 1960), and Super and Crites (1962) conclude that success is predicted best where the occupation is characterized by one or two relatively homogeneous interest clusters.

The present study was undertaken not so much to demonstrate the validity of the Kuder Preference Record (KPR) which it employs, but to explore the

possibility that a set of homogeneous interest scales, administered 25 years previously to junior high school age students, can have any relationship to several occupational criteria.

Review of Similar Studies. Several studies of the predictive validity of homogeneous interest scales have been performed. Campbell (1971) reanalyzed data collected by Berdie (1960b) and Schletzer (1963) to test the predictive validity of the SVIB's Basic Interest Scales (BIS). In this situation, students who were about to graduate in a variety of occupationally relevant college majors (e.g., journalism, accounting, mechanical engineering) had SVIB's which they had taken in high school traced by the original investigators. Campbell then compared their scores on the basic interest scales relevant to each occupational group. From inspection of his table of results, it is clear that the mean scores on the relevant scale of each group is reliably different from the mean which would be scored by all others who were studied. But it must be remembered that the criterion groups were highly refined; that is, they had already demonstrated their interest in an occupation by completing a college major related to it, and they had expressed congruent interests to this major while in high school. Their high school colleagues who had similar high interest scores, but who did not somehow major in a consistent area of study were not included in the comparison.

In another reanalysis of data, Campbell (1971) shows that men who were salesmen 36 years after being inventoried at age 16, scored higher on the sales interest scales than did men who became scientists, and scientists scored higher on the science scale than did the salesmen. It might be noted that there are about 20 BIS on the SVIB, some of which are fairly directly related to occupations, such as law/politics, or medical service, in contrast to the more general 9 or 10 scales of the KPR.

Lipsett & Wilson (1954) located 378 former clients of a counseling service presumably of past high school age after 1 to 2 years, and compared their occupations with a number of tests administered in their counseling. Their methodology merits review here. The KPR scales are homogeneous, "type of interest" scales, while the criteria are occupational titles. A method must be used to associate scales with occupations. Kuder (1946) provides a table of occupations classified by major interest type or types. He suggests that in counseling, the client should be urged to consider the occupations associated with his two highest scale scores. Thus, Lipset & Wilson (1954) identify an occupation as suitable if either of the Ss highest two scores is contained in the code of high scores given by Kuder (1946) for a number of occupations. They found that 55% of their subjects were in occupations consistent with their earlier KPR scores, and a higher level of job satisfaction was reported by those who were in consistent occupations. All of the Ss were advised of their scores, if not urged to consider the occupations which they implied.

McRae (1959) found almost 1200 men and women on an average of 8 years after administration of the KPR in a widely distributed sample of high schools. His findings were similar to those already reported; 63% were in occupations consistent with their scores and those in consistent occupations were significantly more satisfied.

Levine & Wallen (1954) were able to find 117 men who had taken the KPR as clients of a Jewish Vocational Service an average of 8 years later. Instead of counting the frequency of consistent high scores and occupations, they used Kuder's (1946) classification to identify the appropriate high scales for each S, and then compared for each scale the mean score of men in occupations appropriate to a scale against the mean of those in other

occupations. Too few of their Ss were in occupations which involved music and artistic interests, so these scales were not tested, but of the remaining seven scales of the KPR, six (all but social service) showed significant differences. They conclude that scores on the KPR are predictive of occupations entered a number of years later.

Instead of occupational choices, Fleming (1959) studied choice of type of post-secondary education by some 9,000 Ss as it related to KPR scores obtained in Canadian grade 13, or at an average age of 18. He found some appropriate relationships, but found that the computational scale did not differentiate choices at all, that mechanical and music scales did not differentiate alternatives for girls, and that clerical did not for boys.

In sum, homogeneous interest scales appear to predict later occupation with an efficiency between 55 and 65%, or that persons in occupations consistent with their earlier scores tend to have higher scores on those scales than persons not in consistent occupations. Further, job satisfaction appears to be related to the consistency of occupation and interests.

Method

Procedures. The circumstances of the administration of the interest inventories in this study have long been forgotten. The scored KPR-Form B answer pads were found in a little-used storage room. Ss were located by pyramiding information. A few were known to be living in the area of the school where the inventories were administered. These knew where others were living, who in turn gave information on the whereabouts of still more. Ss were sent a questionnaire asking for their present occupation, subjective self-estimates of satisfaction and success, and a chronological work history. The questionnaire was accompanied by a list of unlocated Ss with a request

for information about them, and a letter explaining the purpose of the study, promising a profile of their 25 year old inventory in exchange for their co-operation.

Analysis. The predictive validity of the KPR-B was assessed both by the Lipsett & Wilson (1954) and the Levine & Wallen (1954) methods. That is, the percentage of consistent occupational codes and high scores was calculated, as well as the mean scores on each of the scales for persons whose occupations involved that scale, compared with others whose occupations were not. Owing to sex differences in KPR norms, scores were analyzed in percentile form, obtained from the then current profile sheet.

Results

The number of original answer sheets was 151, of which 86 were males and 65 were females. All but 30 of the Ss were located in 1972, 25 years after the date on the answer pads. Of those located, 15 could not be used because they had not worked (2) or were homemakers, which is not coded by Kuder. Four additional Ss had invalid answer sheets, leaving a total of 102 for analysis. Two of this number were deceased, but were presumed to have been in occupations they would have continued. About 25 were not actually contacted, but their occupations were reported by more than one person.

The number of Ss who were in occupations which were consistent with their interest profiles was 54, or 53% of the total. It is difficult to evaluate this finding. Chance relationship would call for a much smaller proportion, were the probabilities of entering all occupations equal, which of course is not the case. (See Brown, 1961 for a discussion of this problem.)

It was found that a number of Ss were in occupations whose codes included scales among their lowest scores. Using the same criterion - either or

both of the Ss two lowest scores in the code for present occupation - 33, or 32%, were found.

Table 1 gives the results of the alternate form of analysis, showing for

Insert Table 1 Here

each scale the mean of Ss whose occupation is related to that scale, compared with the mean for all other Ss on that scale. The music scale could not be tested because of too few Ss were in musical occupations. Of the remaining 8 scales, only one, Social Service, shows a difference with a probability of occurance by chance of less than .05, while six other scales do not show significant differences, but do differ in the appropriate direction. For the Clerical scale only, Ss not employed in clerical-related occupations score higher than those who are.

Table 2 gives the comparative levels of success and satisfaction scores for Ss whose occupations are consistent with their interests, compared with those whose occupations are not consistent. It can be seen that for success

Insert Table 2 Here

the difference is not significant, but Ss whose occupations are consistent with their interest report more satisfaction with their work than those whose occupations are not consistent.

Discussion

The foregoing analysis does not show unequivocable support for the possibility that interest measured at age 14 by the KPR-B predict occupations observed 25 years later. But the data are not random.

Fifty-three percent of the Ss were in occupations which would have been suggested for consideration by Kuder's (1946) table. This compares favorably with the figures of 63 and 55 percent obtained by McRae (1959) and Lipsett & Wilson (1954), especially remembering that their intervals were 8 and one to two years, respectively and that their Ss were older. Yet, 32% of the sample were in occupations related to a scale which was among their two lowest scores. This is greater than would be expected in a set of random data - people do get into occupations containing activities which their age 14 inventories suggests they would like least of all possibilities. Whether they in fact do not like that part of their work, or whether their interests had changed in the ensuing 25 years could not be ascertained in this study.

Approaching the data from Levine and Wallen's (1954) method shows only one scale, Social Service, to produce a significantly higher mean score for the Ss who were engaged in work related to that scale by Kuder's 1946 table. Yet seven other scales (excepting Clerical) showed differences in the appropriate direction, a possibility which would be highly unlikely in random data. It is difficult to explain why the means on the clerical scale are reversed, i.e., higher for those not engaged in clerical occupations. Many of the Ss whose occupations involved this scale were married women, who were employed in office jobs. This may hint at the possibility that these occupations are entered more in terms of convenience than as responsive to interests, as might be the case for the Science or Social Service scales where the related occupations require a deliberate choice in the form of formal education. This idea, of course, needs a deliberate test before it can be accepted.

Finally, although nearly all Ss in occupations consistent and inconsistent with their previously measured interests reported above average job satisfaction and occupational success, those who were in consistent occupa-

tions rated themselves comparatively more satisfied. Again, this is the same as observed by McRae (1959) and Lipsett & Wilson (1954).

Analysis of the data in this fashion conceals some of the more tantalizing information obtained in the survey of the subjects. One is the breadth in levels of attainment of the Ss - doctors, lawyers, engineers; to, at about age 40, a laborer in the grounds crew of a large employer with an extensive physical plant. Not included in the success data are the two Ss who were unemployed. Both had completed occupational training - teaching and engineering. The teacher took a job away from home after graduation, but didn't like it and returned home to live with her mother, where she still is. The engineer reported that he was "forced to resign" from his research and development job, and since that time he has been on Welfare. He says that he reads books on nutrition and two or three times a year helps a buddy install a doorbell or tune a carbuerator. In contrast, the survey uncovered a high school principal who also is the owner of a sporting goods store and sells automobiles during the summer. A few Ss reported that they had been hospitalized at one time or another for emotional ills, and one's present occupation was a deliberate therpeutic prescription for her. One would wish for many more old answer sheets to be found in storage in order to pursue the variability intimated by the occasional S in the present study.

All in all, although counseling junior high schoolers from KPR scale scores would not be appropriate, it appears that scores obtained that early do bear a relationship to occupation and satisfaction even after 25 years.

Table 1

Comparisons of Kuder Preference Record, Form B, Scores Made 25 Years Previously by Ss Engaged in Occupations Related to an Interest Area and by Those Engaged in Other Occupations

Kuder Scale	N	Mean	S.D.	t
Mechanical				
Occupied	26	62.54	30.15	.937
Others	76	56.18	29.03	
Computational				
Occupied	18	51.18	35.78	.832
Others	84	43.74	27.20	
Scientific				
Occupied	30	53.07	31.96	1.394
Others	72	43.37	32.22	
Persuasive				
Occupied	27	63.04	27.78	1.219
Others	75	55.74	27.86	
Artistic				
Occupies	9	71.89	20.78	1.387
Others	93	61.10	24.64	
Literary				
Occupied	21	42.19	27.24	1.212
Others	81	34.27	24.45	
Musical				
Occupied	2	71.50	---	---
Others	100	51.74	26.21	
Social Service				
Occupied	32	62.09	30.28	2.042*
Others	70	49.19	28.06	
Clerical				
Occupied	28	45.64	26.15	.884
Others	74	50.84	27.48	

* $p < .05$

Table 2

Success and Satisfaction of Ss whose Occupations are Consistent (n=38) and Inconsistent (n=34) with their Highest Kuder Preference Record Scores.

Variable		Consistent	Inconsistent	t
Success	Mean	5.394	5.029	1.592
	St. Dev.	1.104	.834	
Satisfaction	Mean	5.795	5.257	2.062*
	St. Dev.	.923	1.221	

* $p < .05$

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